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GRR CONTRIBUTION TO SE-37

PROBABLE EFFECTS ON THE SOVIET BLOC  
OF CERTAIN COURSES OF ACTION DIRECTED AT THE  
INTERNAL AND EXTERNAL COMMERCE OF COMMUNIST CHINA

CIA/RR IP-331

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TRANSPORTATION

Summary

Assuming that monetary cost can be ignored, we believe that the railroads of Communist China are adequate to handle essential requirements for freight under circumstances of an embargo or a blockade.

In the event of an effective embargo of seaborne imports (of approximately 4,200 tons per day), we believe that the railroads of Manchuria and China have sufficient capacity and rolling stock to handle those imports should they move via the Trans-Siberian Railroad. It is likely that part of these imports would not move at all if it were necessary to transport them via this all-rail route. This would reduce the additional tonnage thrown on the railroads. In fact, no such demand would be imposed upon the railroads as Bloc bottoms could be employed to move at least part of the tonnage.

A blockade which stopped both Chinese seaborne imports and coastal shipping (of approximately 9,100 tons per day) would have a much more serious effect. Then the transfer of excess rolling stock from the European Satellites to China would be required; we believe this could be done. Once the re-orientation had been accomplished, the minimum essential requirements of the Chinese economy could be met, but there would still be serious problems because the railroads do not serve all of the same parts of the country now served by coastal shipping.

However, the railroads would not be able to maintain essential service if effective bombardment were combined with a blockade. There are several critical segments of the Chinese railnet that are particularly vulnerable to bombardment. We believe that the railroads could not move an adequate amount of essential freight if these critical segments were successfully put out of service by bombardment.

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TRANSPORTATION

Questions

III. WHAT WOULD BE THE EFFECT OF A TOTAL EMBARGO OF NON-COMMUNIST TRADE WITH COMMUNIST CHINA ON THE CHINESE COMMUNIST ECONOMIC AND POLITICAL STRENGTH, AND ITS MILITARY CAPABILITIES?

- A. What would be the effects of a complete economic embargo on Communist China's trade pattern over the next year?
  2. What would be the composition and volume of Communist China's imports from the rest of the Soviet Bloc (a) by sea? (b) by land? What upper limits would be imposed by transportation shortages? What economic strains would be placed on the Soviet Bloc if it attempted to provide Communist China with both its military and minimum economic requirements? If it attempted to provide Communist China with sufficient assistance to support a gradual expansion of the Chinese Communist economy? Could the USSR provide assistance on this scale without serious effects on its own planned economic development?
- B. How would this change of trade pattern affect Communist China's economy?
  2. What would be the effects on transportation? What would be the repercussions of these effects to the rest of the economy?
- C. What would be the effects on Chinese Communist military capabilities with special reference to their ability to sustain operations in Korea?
  2. Would there be any effect on the ability to transport troops and to provide military logistical support?

IV. WHAT WOULD BE THE EFFECTS OF A NAVAL BLOCKAGE INCLUDING PORT ARTHUR AND DAIREN ON COMMUNIST CHINA'S ECONOMIC AND POLITICAL STRENGTH AND ITS MILITARY CAPABILITIES?

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- IV. A. Assuming that a naval blockade would cut off substantially all of Communist China's sea-borne imports, to what extent could the loss of these imports be made up by additional overland imports from the Soviet Bloc?
2. What limitations would be placed on this trade by the current capacity of inland transportation within Manchuria and elsewhere in Communist China? What is the capability of Communist China to increase such capacity under conditions of a blockade? What assistance could the USSR provide to increase such capacity?
  3. What economic strains would be placed on the Soviet Bloc if it attempted to provide Communist China with both its military and minimum economic requirements? If it attempted to provide Communist China with sufficient assistance to support a gradual expansion of the Chinese Communist economy? Could the USSR provide assistance on this scale without serious effects on its own planned economic development?
- B. What would be the effects of a naval blockade on Communist China's coastal trade?
3. What is the ability of the inland transportation system of Communist China to carry this coastal trade, allowing for the increased overland imports from the Soviet Bloc projected in "A" above?
- C. What would be the effects over the next year of the dislocations, shortages, and additional costs, caused by a naval blockade on:
2. The military capabilities of the regime, especially with reference to its ability to sustain military operations in Korea;
  4. Communist China's political, economic, and military relations with the USSR?
- D. If a naval blockade were maintained over an extended period of time - 2 to 5 years:
1. Could the USSR progressively increase its economic assistance to Communist China?
  2. What would be the probable trend in the industrial sector of the Chinese Communist economy? In the monetary and fiscal

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IV.D.2(Continued)

situation? In transportation? In agricultural production and distribution? On the over-all economic, political, and military strength of the regime?

3. What would be the probable trend in economic, political, and military relations between the USSR and Communist China?

V. WHAT WOULD BE THE EFFECTS OF BOMBARDING TRANSPORTATION FACILITIES IN COMMUNIST CHINA IN CONJUNCTION WITH A NAVAL BLOCKADE?

- B. What would be the effect on Communist China's ability to sustain military operations in Korea of successful and sustained air bombardment of such targets?
- C. What would be the economic and political effects on Communist China of successful bombardment of such targets?

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TRANSPORTATION

1. Capacity of Land Transportation Routes Connecting China and the USSR

The Trans-Siberian railroad is the main land route for transportation from the USSR to China. This line is estimated to have a freight-carrying capability (after deductions for minimum essential non-freight movements) of 33 trains each way per day (EWPd) of 1,000 net tons each, or a total of 33,000 tons EWPd. Of this amount, under peacetime emergency conditions, it is believed that the Soviet Union could utilize 16 trains daily eastbound, or 16,000 tons, for shipments to the Manchurian border (EIC-R-9). In addition, at least an equal amount of the westbound capability of the Trans-Siberian railroad could be used for movements from the Vladivostok area to the Manchurian and Korean borders.

The capacity of the Trans-Siberian railroad, however, is far in excess of the estimated present capability of the connecting railroads to accept traffic. The Manchouli-Harbin and Harbin-Suifenhao lines are estimated to have a combined freight-carrying capability of about 13,000 tons daily for movements into Manchuria; the recently completed Baranovskiy-Kraskino-Hongui route into North Korea is estimated to have a freight-carrying capability of about 4,500 tons daily for movements into North Korea (EIC-R-9). This gives a total capability for movement into Manchuria and North Korea of about 17,500 tons daily. The Trans-Siberian railroad is capable of delivering 16,000 tons of freight to these railroads from western USSR, and at least another 16,000 tons in movements from the Vladivostok area.

It is estimated (by G-2) that the Soviet Union sends about 4,200 tons of army materiel daily to Manchuria, China proper and Korea; and (by A-2) that 1,100 tons of jet fuel and aviation gasoline move from USSR; giving a total of 5,300 tons daily. While there are no estimates available on the daily total tonnages of non-military items moved from the Soviet Union, the indications are that these tonnages do not exceed 4,000 tons daily. Thus, total movements are estimated at a maximum of 9,300 tons from the USSR at present. Of this amount perhaps a maximum of 6,500 tons comes eastward over the Trans-Siberian railroad. This would leave the Trans-Siberian railroad ample capacity for handling the 4,200 tons of freight formerly received by Communist China via seaborne shipping. The Trans-Siberian railroad is estimated (in EIC-R-9) to have an available capacity of 16,000 tons for eastbound traffic under the extreme conditions which would prevail during a blockade of Communist China or when freight movement to the Soviet Far East would be reduced to absolute, essential requirements.

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Some freight can be moved between the USSR and China and Korea by roads. The major road routes are through Sinkiang to Lanchow, and through Outer Mongolia to Peiping. The road from the Alma Ata area through Urumchi has a capacity of about 400 tons EWP; Ulan Ude-Ulan Bator-Peiping, 100 tons; Blagoveshchensk-Harbin, 400 tons; Birobidzhan-Leninskoye-Chiamussu-Harbin, 200; Iman-Mutanchiang, 100; Voroshilov-Mutanchiang, 400; Voroshilov-Kraskino-Unggi (North Korea), 300; Kraskino-Tumen, 300 [REDACTED] 25X1C8b

25X1C8b [REDACTED] Secret). These routes thus have a combined capability of about 2,200 tons daily for movement from the USSR into China proper, Manchuria, and North Korea. In some cases, as in the long haul from the Alma Ata area through Urumchi to Lanchow, the consumption of motor fuel for through movements of trucks would be tremendous and would make large-scale shipments extremely costly. This might reduce total net tonnage delivered in China to about half of the 2,200 figure. Such a small amount would hardly justify the thousands of trucks such a movement would require.

The Amur and Sungari Rivers, which connect Harbin with the Trans-Siberian railroad, would provide an additional capacity of approximately 2,200 tons EWP [REDACTED] 25X1C8b

## 2. Ability of Chinese Railroads to Handle Increased Loads

Our estimate of the ability of the Chinese railroads to handle an additional 4,200 tons per day is based on the following considerations: The Manchouli-Harbin-Suifenhao line is estimated to have a capability of about 13,000 tons daily for movement from USSR to China (it is believed that this is a conservative figure); the Baranovskiy-Hongui line is estimated to have a capability of about 4,500 tons daily (EIC-R-9). It is believed that at present the Manchouli-Suifenhao line handles its present traffic without difficulty, but that only a small amount of traffic moves on the Baranovskiy-Hongui line.

Although the lines are believed to have surplus capacity which could be utilized for this additional traffic, the additional freight cars required might pose a serious problem. Assuming that the 4,200 tons would receive an average haul of 2,400 kms. from the Soviet-Manchurian border to central China, and that the cars would move at an over-all speed of 15 km/hr because they would be assembled into trains moving for long distances, it would take about 6.7 days one way, or about 13 days turnaround time for each car. To this should be added two days for loading, unloading, and terminal time, giving a total turnaround of 15 days. Assuming that about 30 tons were loaded per car, the 4,200 tons would require 140 cars daily. Thus, 140 cars daily for 15 days would utilize about 2,100 freight cars. To this should be added 5 percent for cars under repair, which increases the total requirement to 2,200 cars. The Chinese and Manchurian rail systems combined have a freight car park of about 40,000 according to an official Chinese

announcement. Thus, this movement would require about 5 to 6 percent of the total car park. At present, the movement of these goods through ports requires fewer cars, since some of the imports are believed to be consumed in or near the ports, and the remainder is hauled shorter distances than from the Manchurian border to central China.

The effect on the locomotive park may be estimated as follows, assuming trains averaging 600 tons net, daily performance per operable locomotive averaging 300 kms. and a daily train movement of 360 kms. The 4,200 tons would require 7 trains daily, and with a 13-day turnaround would require movement of a total of 91 trains daily. These trains would perform a total of 33,000 train/kms, which would utilize 110 locomotives daily. Assuming that in any one day 10 percent of the locomotives are not in use, a total park of about 120 locomotives would be required for this movement alone. This is about 5 percent of the estimated locomotive park of 2,500 units. A small additional number of locomotives would be required for yard operations at terminals.

The strain placed on the Chinese locomotive and freight car park could be reduced in two ways: a) Additional rolling stock might be imported from the Western Satellites, such as Soviet Zone of Germany which has set up reserves of this equipment. An indication of this surplus is given by the return of 20,000 freight cars from the USSR to the Soviet Zone of Germany in mid-1952, half of which were in reasonable operating condition. This transfer of freight cars and locomotives might be effected within a period of six months. Some additional cars might also be obtained from the USSR. b) Production might be increased in Communist China. Such production is believed to be increasing, as indicated in ORR IP-279. However, it would probable require a number of years to produce sufficient equipment to relieve the strain resulting from complete blockade if rolling stock were not obtained from other sources.

25X1A An indication of Chinese Communist freight car production is given in the announcement that in 1950 and 1951 only 1,419 new freight cars had been built; by contrast the 1950 program, which was apparently not fulfilled, included the construction of 1,500 freight cars in Manchuria alone 25X1A [REDACTED] and a total of 2,200 freight cars for all of China (Jenmin Tsehtao, Peking, 1 Dec. 1949, Unclass). Some locomotives were produced in pre-Communist China, but production capacity was impaired prior to the communist takeover and present production is believed very small.

#### Increases in Track Capacity

The capacity of routes connecting the USSR and China is apparently being increased. The figures given for the Harbin-Suifenhao line assume

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that it is in effect single tracked, although the line was double tracked until 1945. It would be necessary only to restore double track between Mutanchiang and Suifenho since there are two lines leading from Mutanchiang to Harbin and to Tumen. There is some evidence that the Manchouli-Harbin line, which was previously single tracked either entirely or in large part, is now having its capacity increased. There are recent unconfirmed reports of construction of a second track at broad gauge, and of laying twin-headed rails on the existing line so that both standard and broad gauge cars and locomotives can travel on the line

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Secret). We do not know, however, the exact nature of the work under way.

An additional increase in capacity of routes between the USSR and China will be provided if the Lanchow-Sinkiang railroad is completed. This line is believed to have been extended eastward from the Turksib railroad toward the Sinkiang border, and work has been undertaken during the past year on extending the line northwestward from Lanchow toward Sinkiang. An additional link would be provided by the planned line between Ulan Bator and Paoou on the Peiping-Suiyuan railroad. Ulan Bator is now connected with the Trans-Siberian railroad by a railroad completed in 1949.

Because the Communist bloc has had a considerable period of time following the first warnings that embargo or blockade might be imposed, it may be assumed that improvements have been made on the Manchouli-Suifenho line to permit the operation of additional trains when necessary. Such improvements would include construction of additional or larger watering and coaling facilities which might otherwise prove to be a bottleneck if there were a sudden increase in traffic above existing levels. The USSR undoubtedly provided technical advice during this period. Recent reports indicate that signals and rails have been provided by the USSR. In case of urgent need, however, there is no doubt that additional needed equipment would be provided.

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### Other Effects of a Blockade

The disruption of coastwise shipping would immediately require a considerable reorientation of Chinese railroad traffic. This might tax the capability of individual lines, particularly the Tientsin-Mukden line which would be forced to carry all the coal production of the Kailan mining region. A similar reorientation would be required in southern China, where rice, a considerable part of which now moves to ports by rivers, would have to be moved westward and northward to railroads in relatively long truck hauls on a poor road net. During the harvest season such movements on railroads might tax their capability.

The imposition of a complete blockade would cause at least a two months' gap in the receipt of shipments from the European Satellites and western USSR which had been moving by water. This time interval would be required to divert freight from ships to freight cars, and to move it through transloading points, across the Soviet Union, and over the Chinese railroad system to its destination. During this time additional freight cars would have to be diverted to the Manchurian-USSR border to handle such additional freight; locomotives would have to be shifted to the main lines along which the additional freight would move.

This additional volume of traffic would require intensive use of the freight car and locomotive park, and an extension of overloading and other practices which increase breakdowns and shorten the life of equipment.

The probable long run effects on transportation caused by a blockade sustained over two to five years would be: a) to increase the number of rail links between the USSR and China, if necessary with a reduction in the rate of expansion of Soviet railroads; b) to increase the capacity of existing rail links by double tracking and other measures, and possibly by the restoration of lines which formerly provided links; and c) an increase in China's capacity for manufacturing locomotives, freight and passenger cars, rails, and signal equipment. In summary, the blockade would force the Chinese Communists to divert a greater proportion of their effort to transportation development, at the possible expense of other aspects of the economy.

### Effect of Blockade on Railroad Traffic

If an effective blockade of coastwise shipping were instituted, the rolling stock problem might be serious, unless additional cars and locomotives were acquired from other countries, as indicated earlier. Although the latest estimate gives daily coastal traffic as 9,100 tons, we have used a figure of 10,000 tons per day in our calculation. Of this amount about 1,300 tons consists of petroleum products. If the remaining 8,700 tons daily is moved in cars carrying an average of 35 tons (because a considerable part of this consists of coal which is shipped in larger cars than normal traffic), 250 cars per day would be required. Assuming that this traffic would have to move an average of 700 kms., and that it moved at an average of 15 km/hr, it would take two days to reach its destination, giving a four-day turnaround. Adding two days for loading, unloading, and terminal time gives a turnaround of six days. Thus, 250 cars would be required daily for six days, or 1,500 cars. Adding 5 percent for cars under repair gives 1,580 cars, which is about

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4% of the freight car park of 40,000 cars, excluding tank cars. Thus, the transfer of seaborne plus coastwise shipping to railroads would utilize approximately 10 percent of Chinese freight cars. It should be repeated that if coastwise shipping were cut off, at least part of the traffic would no longer move, which would reduce the tonnage thrown on the railroads.

One of the items moving coastwise at present is petroleum products, which are transported from Dairen to such ports as Tsingtao and Shanghai. This freight is moved to Dairen primarily by rail. The additional rail haul required if the coastwise shipping were eliminated would average about 700 kms. This would give a six-day turnaround as calculated above. Assuming this movement to total about 475,000 tons annually, or about 1,300 tons a day, it would use 44 tank cars of 30 tons capacity. With a six-day turnaround, 264 tank cars would be required for this movement, plus an additional 5 percent for cars in repair, equalling about 280 tank cars. The present Chinese tank car park is unknown, although at the end of the war the combined Manchurian and China proper railroad networks had less than 500 tank cars. The receipt of additional tank cars from the USSR may have doubled this total, since one source reported the receipt of 500 tank cars from the Soviet Union at Harbin where work was performed to replace the couplers [REDACTED]

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That the tank car park was apparently sufficient for needs in late 1952 is indicated by letters from South China stating that tung oil would be shipped to Hong Kong only in tank cars. While a small number of tank cars are at present in use in China proper for movement of petroleum from ports to interior points, it is likely that additional tank cars would have to be obtained from the Soviet Union to carry the additional movement required by the blockade. This is particularly true when adding to the above figure the tank cars which would be required to carry the estimated 48,000 tons moved annually to China by ocean-going tanker, all of which tonnage would have to be moved from the Manchurian border to its destination.

The effect on the locomotive park may be estimated by using methods similar to those employed earlier. The movement of 10,000 tons daily over 700 km. haul would require about 80 locomotives. In 1945, China proper and Manchuria combined had 4,500 locomotives. Due to removals by the Soviets and other losses during the Nationalist-Communist civil war, this park may have been reduced to 2,500 locomotives. Thus the 80 locomotives, plus the 120 required by freight formerly moved by sea, would total 200 locomotives, which might equal 8 percent of the present total locomotive park. A small number of additional locomotives would be required for yard operations in terminals to handle this additional traffic.

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SUMMARY

I. EXTENT, ENFORCEMENT, EFFECTIVENESS OF PRESENT CONTROLS

At the present time, only the US has a complete embargo on trade with Communist China, reinforced by transportation orders and foreign assets control regulations. UK regulations cover most strategic commodities destined for Communist China and they are supported by Hong Kong export controls. UK transport controls are not as severe as US controls. Forty-five states have enforced the UN resolution of 18 May 1951 by selective embargoes on war materials. COCOM members generally apply more strategic export controls to the China trade than to other Bloc areas. But continued trade of Southeast Asian countries with Communist China, control coverage differences among the major industrial countries, the lack of transit-trade controls, and the haphazard nature of transport controls allow many evasions and circumventions of such controls as do exist.

From 3,000 to 6,000 tons of cargo move into as well as out of Communist China aboard ocean-going vessels. The daily tonnage carried by coastal traffic is at least twice as large, if sizeable imports by smuggling are not considered. The transportation of some strategic cargoes and virtually all non-strategic trade of non-USSR origin for Communist China by sea has released particularly the capacity of the Trans-Siberian Railroad for the carriage of strategic cargoes chiefly for support of the Korean war.

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SUMMARY

III. G. FACTORS PREVENTING FULL EMBARGO ENFORCEMENT

The US embargo on trade with Communist China is virtually complete and effective. Major factors which prevent effective enforcement on an international basis of a full embargo against Communist China are the following:

1. Continued trade of Southeast Asian countries with Communist China.
2. Differences in control coverage among non-Bloc countries regulating with Communist China (lack of transit-trade and transaction controls, haphazard nature of transport controls).
3. Communist Chinese imports/exports aboard Soviet Bloc vessels which do not require Western-controlled fuels and lubricants for the voyage and move unhampered in the absence of a naval blockade.
4. Road and rail communications with adjacent Soviet Bloc territories (adequate Trans-Sib capacity available for urgent requirements, Chinese railnet completion scheduled for 1955, feasibility of repeating World War II construction projects such as Burma Road improvements).
5. Smuggling (likely to be even more lucrative under strict embargo conditions):
  - a. Possible police control of coastal junk traffic too expensive.
  - b. Overland smuggling might be increased from Southeast Asia areas.